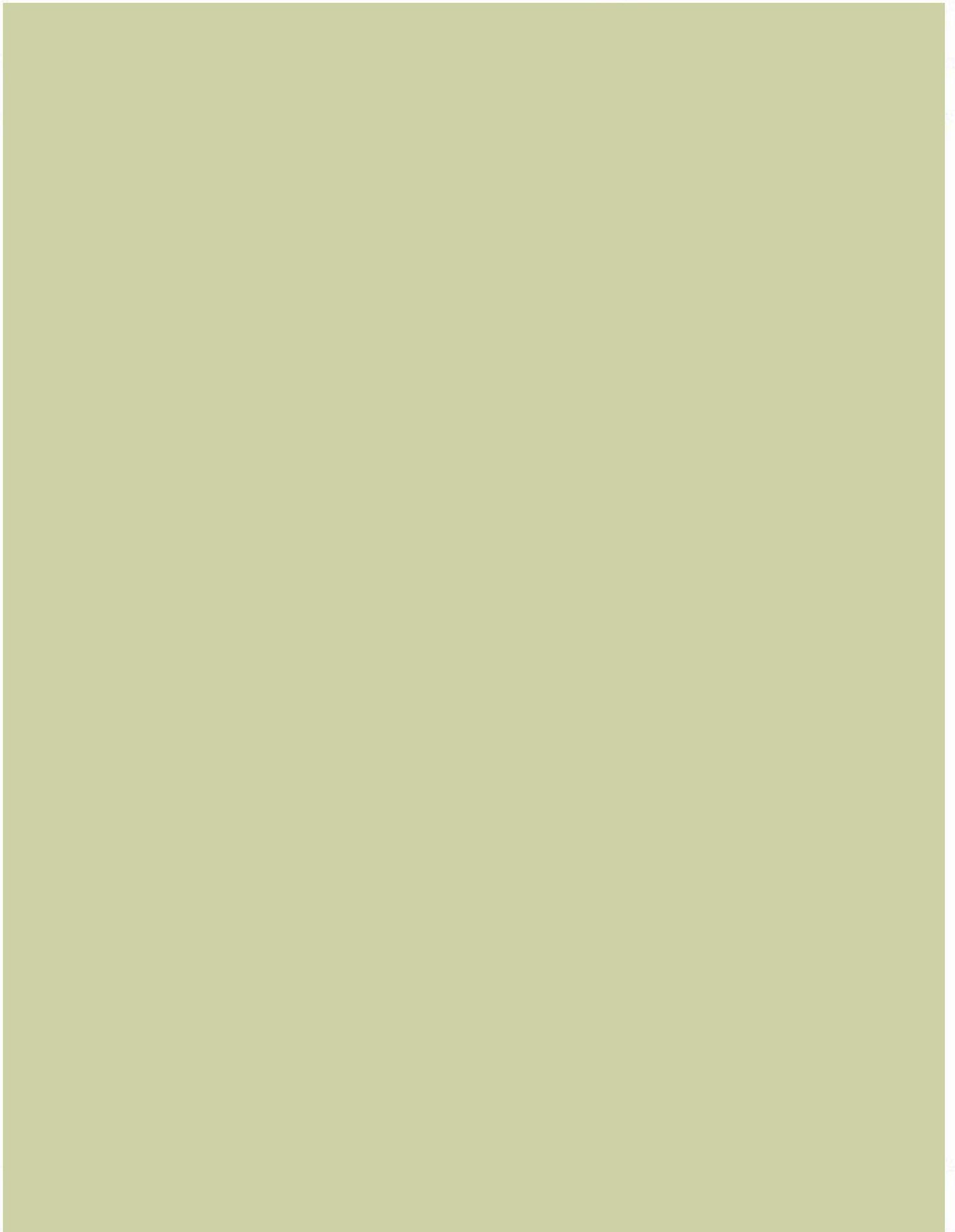




# The GLOBE Program in Asia and the Pacific

An international hands-on, school-based education and environmental science program uniting students, teachers, and scientists in study and research about the dynamics of Earth's environment. Over 31,000 teachers in more than 17,000 schools in over 100 countries have been trained to implement GLOBE.







## GLOBE Program Summary

The GLOBE Program brings together students, teachers and scientists to:

- Increase scientific understanding of the Earth;
- Support improved student achievement in science and math; and
- Enhance environmental awareness of individuals worldwide.

GLOBE supports education by providing hands-on experience in authentic science. GLOBE students are doing science, not just learning about the work of others. Students begin with measurements of individual environmental parameters and build toward an understanding of how the Earth functions as a system.

GLOBE students measure and report physical, chemical and biological properties of Atmosphere and Climate, Hydrology, Soil, Land Cover/Biology and Phenology. The resulting global data sets are made freely available via the Internet at [www.globe.gov](http://www.globe.gov) to users including the worldwide environmental science community. GLOBE students also access these data for classroom studies, research, student-scientist partnerships, and worldwide school-to-school collaborations. GLOBE students have collected and entered more than 14 million data for their use as well as by scientists studying the Earth system.

The next step in the evolution of the GLOBE Program is called the “Next Generation GLOBE (NGG).” The features of NGG are based on an intensive self-study of the past 10 years of GLOBE conducted by GLOBE Program Office staff, with extensive input and recommendations from the worldwide community of GLOBE participants, and guidance from GLOBE’s U.S. Government funding agencies.

The vision of NGG is of a Program supporting students, teachers, and scientists to collaborate on inquiry-based investigations of the environment and the Earth system, working in close partnership with two U.S. agencies, the National Aeronautic and Space Administration (NASA) and the National Science Foundation (NSF), and their Integrated Earth System Science Programs (IESSPs) to give the entire GLOBE community access to top scientists around the world and expose students to programs that are on the cutting edge of Earth system science research. To achieve this vision, GLOBE will promote focused activities around the NSF IESSPs, develop GLOBE Project School Networks (PSNs) and strengthen GLOBE Learning Communities through the development of Regional Consortia of GLOBE countries around the world.

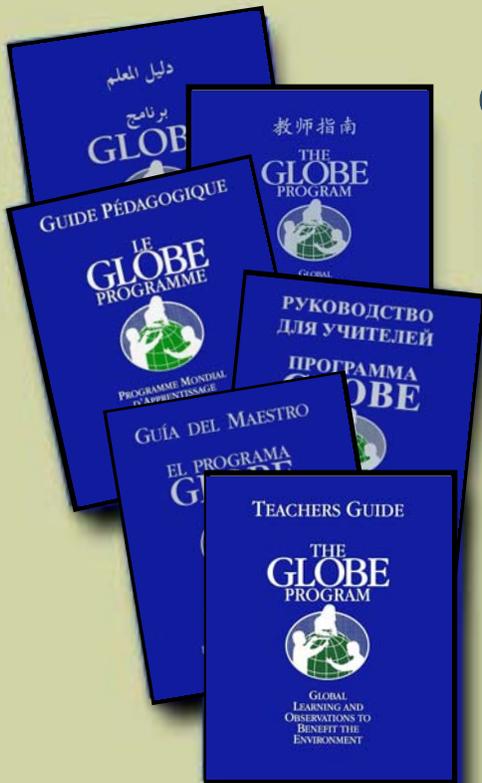
This transformation will be accomplished while retaining the Program’s essential elements of being both education and Earth system science, a bridge between these two international communities, a worldwide collaborative community of practice, and a program that employs inquiry-based educational activities that involve students in “authentic” hands-on science, the analysis of data and the use of scientifically-tested protocols.





## Educational Materials

GLOBE provides a variety of K-12 educational materials, from hands-on inquiry activities for classroom use to online interactive learning experiences and investigations using student-collected data.



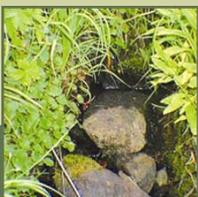
## GLOBE Teacher's Guide

The GLOBE Teacher's Guide provides the scientific and educational foundation for the first generation of GLOBE investigations: Atmosphere, Hydrology, Land Cover, Phenology, and Soil. It includes information necessary for accurate data collection such as measurement procedures, student lab and field guides, instrument specifications, and scientific background information. The Teacher's Guide also includes a variety of Learning Activities that complement data collection and extend student understanding of the Earth as a system through a hands-on and inquiry-based approach.



## Elementary GLOBE

GLOBE has developed a suite of storybooks and learning activities specifically designed for grades K-2 that form the Elementary GLOBE Unit. This unit engages the youngest GLOBE students in an age-appropriate fashion. These standards-based and classroom-tested resources include five modules that each address parts of the Earth system while also building literacy skills.





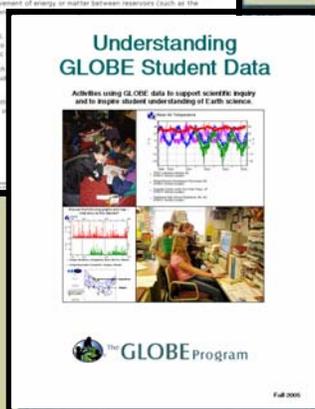
## Online Teaching Modules

The GLOBE Program has developed Interactive online resources to promote understanding of GLOBE Program content and scientific protocols. Resources combine graphics and interactivity to promote understanding through a hands-on approach that has been established as a successful model for online learning. The Cloud Protocols module (shown here) promotes scientific understanding of cloud formation, content on identification of cloud types, and interactive features to help online learners to accurately collect data related to the GLOBE Cloud protocols.



## Data Use Activities

Educational materials have been designed to encourage student analysis and interpretation of data. The data use activities foster student investigation of environmental data using the GLOBE Web site and its online graphing tools. GLOBE educational technologists are exploring additional learning models to encourage student interpretation of data in an online and inquiry-based format.





## GLOBE Learning Expeditions

GLOBE Learning Expeditions (GLEs) are organized every 2 to 3 years in order to provide students from around the world the opportunity to meet one another, establish friendships and develop collaborative partnerships that will enhance their future GLOBE experience. These conferences also provide teachers an opportunity to share ideas and challenges from their GLOBE experiences, to attend protocol and activity enrichment sessions, and to build connections for research efforts between schools. GLEs have occurred in 1998 (Helsinki, Finland), 2000 (Arkansas, U.S.A.), and Šibenik, Croatia (2003). The next GLE is tentatively scheduled for 2008 in a location still yet to be determined.

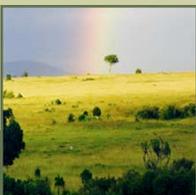


## GLOBE Annual Conference

The 9th Annual GLOBE Conference, "GLOBE 2005: Global - Regional - Local," was held on 31 - July - 5 August, 2005, in Prague, Czech Republic. The Annual Conference brought together GLOBE Country Coordinators and U.S. Partnership Coordinators, Education and Science Principal Investigators, GLOBE Program Staff, and others to address key education and science elements of GLOBE. This event was the first GLOBE Annual Conference to be held outside of the U.S. The meeting was organized by GLOBE Europe, in collaboration with the GLOBE Program Office, and was graciously hosted by Tereza Association, the organization responsible for GLOBE in the Czech Republic. More than 150 individuals from 34 countries participated actively in presentation, discussions, workshops and social events.



The 10th Annual GLOBE Conference, "The New Decade for Global Sustainable Development", will be hosted by GLOBE Thailand in 2006. Look for updates on the GLOBE Web site about this event!





## GLOBE Country Coordinators in Asia and the Pacific (17 Countries)



**Australia**  
322 schools

Mr. Greg Manning  
Environmental Education Section  
Department of the Environment and Heritage  
GPO Box 787  
Canberra ACT 2601  
AUSTRALIA  
Telephone: 61 2 6274 1523  
Fax: 61 2 6274 2510  
Email: Greg.Manning@deh.gov.au



**Bangladesh**  
3 Schools

Md . Habibur Rahman Chowdhury  
Joint Secretary ( Retired) & GLOBE Coordinator  
House # 130, Road # 9/A, Flat 2 B, Dhanmondi R/A  
Dhaka – 1209  
BANGLADESH  
Telephone: 880 2 9146147, 880 2 8159206  
Cell Phone: 88 0175459164  
Fax: 88 02 8113503  
E mail: nabiliaq@sify.com, farah77bd@yahoo.com



**Fiji**  
8 Schools

Laulesh Kumar  
Curriculum Development Unit  
Ministry of Education  
Marela House  
Suva  
FIJI  
Telephone: 679 306077  
Fax: 679 305953  
Email: cdu@is.com.fj



**India**  
315 Schools

Mr. R. Mehta  
Ministry of Environment and Forests  
Paryavaran Bhavan  
CGO Complex  
Lodhi Road  
New Delhi, 110003  
INDIA  
Telephone: 91 11 2436-2840  
Cell Phone: 91 9810250430  
Fax: 91 11 2436 8654  
Email: rmehta@nic.in, rmehta52@yahoo.com



**Japan**  
164 Schools

Dr. Shuji Yamashita  
c/o: Dr. Tomoyasu Yoshitomi  
Field Studies Institute for Environmental Education  
Tokyo Gakugei University  
4-1-1 Nukuikita-machi  
Koganei  
Tokyo 184-8501  
JAPAN  
Telephone: 81 42 329 7662  
Fax: 81 42 329 7669  
Email: globe@u-gakugei.ac.jp, t-ystm@u-gakugei.ac.jp,  
yamkkfrog88@yahoo.co.jp



**Korea,  
South**  
17 Schools

Kee Seong Lee  
Science Education Policy Division  
Ministry of Education and Human  
Resources Development  
77 Sejong-Ro Chongno-Ku  
Seoul 110-760  
SOUTH KOREA  
Telephone: 02 2100 6300,  
Fax: 02 2100 6309  
Email: ksflee@moe.go.kr, ksflee@naver.com



**Maldives**  
0 Schools

Mr. Ahmed Saleem  
Environment Research Centre  
Ministry of Home Affairs and Environment  
4th Floor, Jamaludeen Complex  
Nikagas Magu  
Male'  
MALDIVES  
Telephone: 960 335 949  
Fax: 960 335 953  
Email: salle\_mv@yahoo.com.mv,  
erc@avasmail.com.mv



**Marshall  
Islands**  
4 Schools

Mr. Julian Alik  
P.O. Box 1322  
Majuro, MH 96960  
Republic of the Marshall Islands  
Telephone: 692 625 5203/3035  
Fax: 692 625 5202



**Micronesia**  
4 Schools

Currently no Country Coordinator is identified  
for GLOBE Micronesia; contact the GLOBE  
Program Office by phone at 1 800 858 9947  
or by email at info@globe.gov



**Mongolia**  
1 School

Ms. Uranchimeg Tserendorj  
P.O. Box 334  
Ulanbaatar 20  
MONGOLIA  
Telephone: 976 1 320409  
Fax: 976 1 323158  
Email: tserendorju@yahoo.com,  
ecoeducation@mongol.net



**Nepal**  
57 schools

Mr. Binod Shrestha  
Environmental Camps for Conservation  
Awareness (ECCA)  
Post Box 9210  
Thapathali, Kathmandu  
NEPAL  
Telephone: 977 1 268 297, 977 1 555 3870  
Fax: 977 1 268 328  
Email: ecca@mos.com.np,  
binod\_shrestha@hotmail.com



The GLOBE Program  
www.globe.gov



**New Zealand**

116 Schools

Kathryn Hicks  
The Royal Society of New Zealand  
PO Box 598  
Wellington  
NEW ZEALAND  
Telephone: 64 4 470 5760  
Cell Phone: 64274104757  
Fax: 64 4 473 1841  
Email: kathryn.hicks@rsnz.org



**Thailand**

158 Schools

Dr. Pornpun Waitayangkoon  
The Institute for the Promotion of Teaching  
Science and Technology (IPST)  
924 Sukhumvit Road Ekamai  
Bangkok 10110  
THAILAND  
Telephone: 662 392 4021  
Fax: 662 381 7530  
Email: pwait@ipst.ac.th



**Pakistan**

12 Schools

Mr. Mehboob Elahi  
Director General  
Ministry of the Environment  
Old CDA Block #4 Old Naval HQ  
G-6 Markaz, Islamabad  
PAKISTAN  
Telephone: 92 51 920 5622  
Fax: 92 51 920 8532  
Email: dgenv@isb.comsats.net.pk



**Palau**

2 Schools

Mr. Emery Wenty  
Director of Education  
Ministry of Education  
P. O. Box 189  
Koror 96940  
PALAU  
Telephone: 680 488 2952, 680 488 2567,  
680 488 4220  
Fax: 680 488 8465  
Email: ewenty@palaumoe.net



**Philippines**

40 Schools

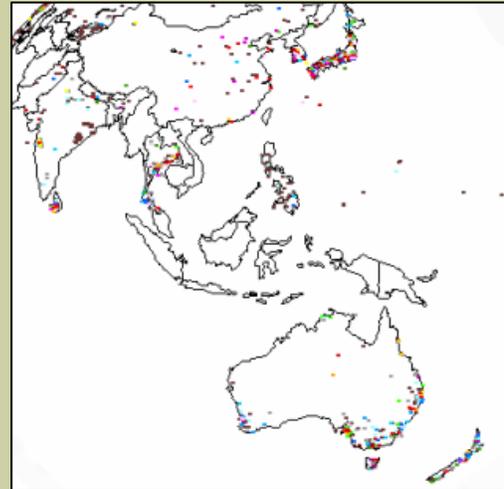
Dr. Ramon Miranda  
Director  
Philippine Science High School-Main Campus  
Agham Road, Diliman  
Quezon City 1104  
THE PHILIPPINES  
Telephone: 02 924 0639  
Fax: 02 926 3137  
Email: rrmiranda@yahoo.com, pshsoed@yahoo.com



**Sri Lanka**

27 Schools

Mrs. Damayanthi Balasuriya  
Deputy Director of Education  
Technical Education Branch  
Ministry of Education  
SRI LANKA  
Telephone: 94 11 2784015  
Fax: 94 11 2784863  
Email: dbalasuriya@yahoo.com



**Asia and Pacific**

Teachers: 1,801 Schools: 1,305  
Data Reported: 990,481

The screenshot shows the GLOBE Online Newsletters website. At the top, there is a navigation menu with links for 'HOME', 'How To Join GLOBE', 'EDUCATION & SCIENCE', 'GLOBE DATA', 'GLOBE PARTNERS', 'LIBRARY', and 'INFO & HELP'. The 'EDUCATION & SCIENCE' section is expanded, showing links for 'Teacher's Guide', 'Protocols', 'Student Investigations', 'School Collaboration', 'Scientists' Corner', and 'Educators' Corner'. Below this, there are links for 'GLOBE PARTNERS' (Country, Schools, U.S. Partners), 'LIBRARY' (Resource Room, GLOBE STARS, News and Events), and 'INFO & HELP' (Learn About GLOBE, Contact GLOBE, FAQs). A search bar is located at the bottom left. On the right side, there is a banner for 'Asia/Pacific Newsletters & Special Reports' with a globe graphic. Below the banner, there are links for 'Asia/Pacific Newsletter (30 Sep 2005)' and 'Asia/Pacific Regional Science Newsletter (01 Apr 2005)'. A 'Languages' section lists: [ English ] [ Español ] [ Français ] [ Русский ] [ عربي ] [ Deutsch ] [ Nederlands ]. A 'Menu' section lists: [ On ] [ Off ]. The server location is listed as 'USA'. There is a section for 'Questions/Comments regarding the GLOBE Program' and a note that 'GLOBE is managed by UCAR/CSU with support from NASA, NSF, the US Dept. of State, and other cooperating organizations.' At the bottom right, there are links for 'Privacy', 'Accessibility', and 'Terms of Use'.



**GLOBE Online Newsletters**



## Highlights of GLOBE Activities in Asia and the Pacific

### Regional Collaborative Events:

- GLOBE representatives from the Asia and Pacific region discuss regionalization at the 9th Annual GLOBE Conference to discuss how to advance the goal of developing a Regional Consortium.
- Follow up Asia Regional Consortium meeting at Thailand Annual Conference Planning Meeting. Countries Present: India, Japan, Philippines, New Zealand, Thailand.
- Second Asia Regional consortium meeting to be held at the 2006 GLOBE Annual Conference in Phuket, Thailand

### Trainings of Regional Significance:

- Multiple Train-the-Trainer Workshops (TTTs) have been conducted in India, New Zealand, the Philippines, and Thailand.
- The first TTT held in Asia was a regional training in the Philippines and included many participants from the Pacific islands.

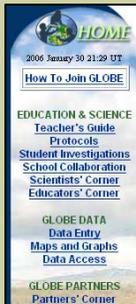
### Regional Teacher Trainings and Events:

- More than 50 GLOBE teacher workshops have been held in the Asia and Pacific region over the last ten years.
- Thailand has conducted additional workshops that extend the use of GLOBE protocols for issues of local relevance:
  - GLOBE Soil Symposium
  - Marine Hydro Symposium. Piloted new GLOBE Marine invertebrates protocol.
  - Phenology Workshop
  - Advancing Science Summer 2003 - AAAS & Mekong Delta study: Landcover Workshop for students
  - "GLOBE Meets GAPS: Utilizing Student Data to Model the Atmosphere-Plant-Soil-System"
- GLOBE Japan and GLOBE Thailand participated in the GLOBE Urban Phenology Year (GUPY) Project organized by Utah State University researchers. Study focused on impacts of the urban heat island effect on phenology.
- GLOBE India / UNESCO World Heritage Project at Taj Mahal / Fort Agra.
- Thailand GLOBE Learning Expedition. Students and teachers from 5 active GLOBE schools learned about GAPS model, clouds observation verification with GOES-9 satellite data, land cover change detection and water quality along Samui coastal erosion and deposition areas, and also studies of tide and watersheds.
- GLOBE Thailand Tsunami Research Project, "The Effects of Tsunami on marine macro-invertebrates, water qualities, ecology and atmosphere by means of GLOBE"
- National GLOBE Campaign and GLOBE Day, Sri Lanka
- GLOBE Young Soil Doctor Project Training, Thailand. An initiative in collaboration with the Land Development Department to train young students to use GLOBE protocols to examine and solve soil problems around their communities.
  - Japanese Teacher's Conference and Training Workshop.
  - Philippine Science High School Training.





# Highlights of GLOBE Stars and News and Events in Asia and the Pacific



**NEWS & EVENTS**

## India's Well-attended Multi-national Workshop

More than 60 educators and scientists from India, Thailand and Nepal are attending a GLOBE international training workshop in New Delhi. The 7-day training workshop is being sponsored by the Ministry of Environment and Forests, GLOBE, and the U.S. Embassy, and coordinated with help from the Indian




## GLOBE Stars in Pakistan

January 22, 1999

The GLOBE Program in Pakistan got off to a strong start in June 1998 when students in Islamabad participated in a special GLOBE Web Chat held in celebration of World Environment Day. "The students really benefitted from the opportunity to communicate directly with GLOBE's Chief Scientist," said Imran Habib Ahmad, the GLOBE Country Coordinator for




## Ecopolis Center Junior Eco Club, Tokyo, Japan

July 09, 1999

GLOBE students at the Itabashi GLOBE Club in Tokyo, Japan are making headlines by demonstrating how young people can collaborate around the world to increase our understanding of the Earth environment. The students gather on weekends and after school at the Ecopolis Center to make GLOBE measurements and to




## GLOBE Reaches Great Heights in Nepal

January 12, 2001

More than 80 teachers, scientists and educators from eight Asia-Pacific countries came together at the GLOBE International Teacher Training Workshop in Kathmandu, Nepal to learn how to teach students program protocols and how the earth works as a system.

Participants from Nepal, India, Sri Lanka, Bangladesh,




## News and Events: Conferences, Training Workshops and Meetings

### GLOBE Thailand Hosts Marine Hydrology Symposium

Following the TTT in Thailand, Walailak University in Nakhon Si Thammarat, GLOBE Thailand hosted a Marine Hydrology Symposium on the 3rd and 4th of February, 2005 supported by Walailak University and The Institute for the Promotion of Teaching Science and Technology (IPST). This symposium piloted a revised Coastal Invertebrate protocol to 30 participants from Thailand, Sri Lanka, and the United States. The participants included GLOBE trainers, GLOBE Master Trainers, classroom teachers, as well as Thai scientists familiar with the GLOBE Program.

This unique symposium was a collaborative effort between the GLOBE Science Team, the GLOBE Hydrology Principal Investigator and Post-doctoral Assistant (Dr. Martha Conklin and Dr. Sarah May of the University of California at Merced), and two scientists from Walailak University, Dr. Mullica Jaroensutamee and Dr. Krsnanadej Jaroensutamee. The scientists and participants at the symposium were building on the extensive work done previously by Dr. Katrina Magnin at the University of Arizona, Dr. Henrietta List at the University of Maine, Dr. Steve Zeeman at the University of New England, and the GLOBE Education and Science Teams. Dr. Magnin originally developed the marine invertebrate protocol and conducted a field test in Elaine, Washington at the 6th Annual GLOBE Conference in 2001. Dr. Henrietta List working with Dr. Steve Zeeman worked with numerous teachers, built on Dr. Magnin's work and conducted field testing throughout the U.S. With all this tremendous collaboration, the final protocol version should be available to GLOBE schools soon.

The workshop field portion was held on the Gulf coast of the southern end of Thailand. This area was not affected by the tsunami and enabled scientists from different countries to compare marine invertebrate sampling techniques and provide needed feedback to the GLOBE Hydrology Team. In addition, the expertise of the participants contributed immensely to the finalization of the revised Coastal Invertebrate Protocol.




## The GLOBE Campaign and GLOBE Day, Malyadeva College, Kurunegala, Sri Lanka

January 31, 2006



The GLOBE Program in Sri Lanka organized a National GLOBE Campaign and GLOBE Day on 20-21 October 2005, at Malyadeva College, Kurunegala. The event was a residential program including more than 275 students representing 32 schools and 60 teachers. The GLOBE Campaign and GLOBE Day were organized to increase awareness of the GLOBE Program among school children as a measure to expand student participation in GLOBE activities. These GLOBE activities were designed to share the experience gained by senior GLOBE students with newly enrolled students to the GLOBE program in the schools.

Highlight your special GLOBE events as well as any GLOBE activities that your teachers and students would like to share with others. These stories often provide ideas and inspiration to other schools, teachers and Country Coordinators. Acknowledge these events by creating a draft article and submitting it with a few photographs. Please remember that all pictures must have a completed release form in order to be posted on the GLOBE Web site.





The GLOBE Program  
[www.globe.gov](http://www.globe.gov)

## For more information contact:

Mr. Eric Stonebraker  
Regional Desk Officer  
Asia and the Pacific  
The GLOBE Program  
Email: [estonebr@globe.gov](mailto:estonebr@globe.gov)

Dr. Teresa J. Kennedy  
Director, International/U.S.  
Partnerships and Outreach  
The GLOBE Program  
Email: [tkennedy@globe.gov](mailto:tkennedy@globe.gov)

Craig Blurton, Ph.D.  
GLOBE Senior Advisor, Asia-Pacific  
12/F, California Tower  
30-32 D'Aguilar Street  
Central, Hong Kong  
Telephone: 852 2872 7319  
Cell Phone: 852 6776 4745  
Email: [cblurton@gmail.com](mailto:cblurton@gmail.com),  
[craigb@globe.gov](mailto:craigb@globe.gov)



Winner of the 2004 Media and Technology Category

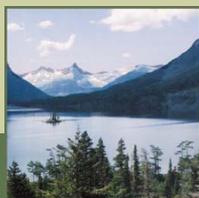
"The awardees reflect new ways of teaching world languages and focus on the international dimension of every major subject, including math, science, language arts, history, geography and economics. They also feature creative and innovative uses of technology."



PHI DELTA KAPPA *International*

Featured in the Phi Delta Kappan International Studies Resource Guide – November  
2004 • Volume 86 • Number 3 [www.pdkintl.org/kappan/k\\_v86/k0411ka3.htm](http://www.pdkintl.org/kappan/k_v86/k0411ka3.htm)

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January 2006

